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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/709,715 | 05/24/2004 | Kuo-Hsing Cheng | 11586-US-PA | 3714 |

31561 7590 12/18/2008

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

| EXAMINER | |
|---|---|
| MOON, SEOKYUN | |
| ART UNIT | PAPER NUMBER |
| 2629 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 12/18/2008 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USA@JCIPGROUP.COM.TW
Belinda@JCIPGROUP.COM.TW

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/709,715 | CHENG, KUO-HSING | |
| | Examiner | Art Unit | |
| | SEOKYUN MOON | 2629 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *18 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *8-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 May 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

1. The Applicant's arguments with respect to the newly added independent claims 8 and 10 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 8-11** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to **claims 8** and **10**, the claims disclose undefined variables such as "*M*" and "*N*". Appropriate correction is required.

As to **claims 9** and **11**, the claims are rejected as being dependent upon base claims rejected under 35 U.S.C. 112, second paragraph.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 8-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US 2005/00083279).

As to **claim 8**, Lee [drawing 1 provided below, which is equivalent to Lee's figure 3] teaches a pixel array, comprising:

M*N pixels, each row of the pixels having a plurality of pixel sets, wherein

the $j^{th}$ and the $(j+1)^{th}$ pixel sets of the $i^{th}$ row of the pixels have driving polarity (note that any of the pixel sets included in the display inherently has one of positive or negative driving polarity), wherein i and j are positive integers;

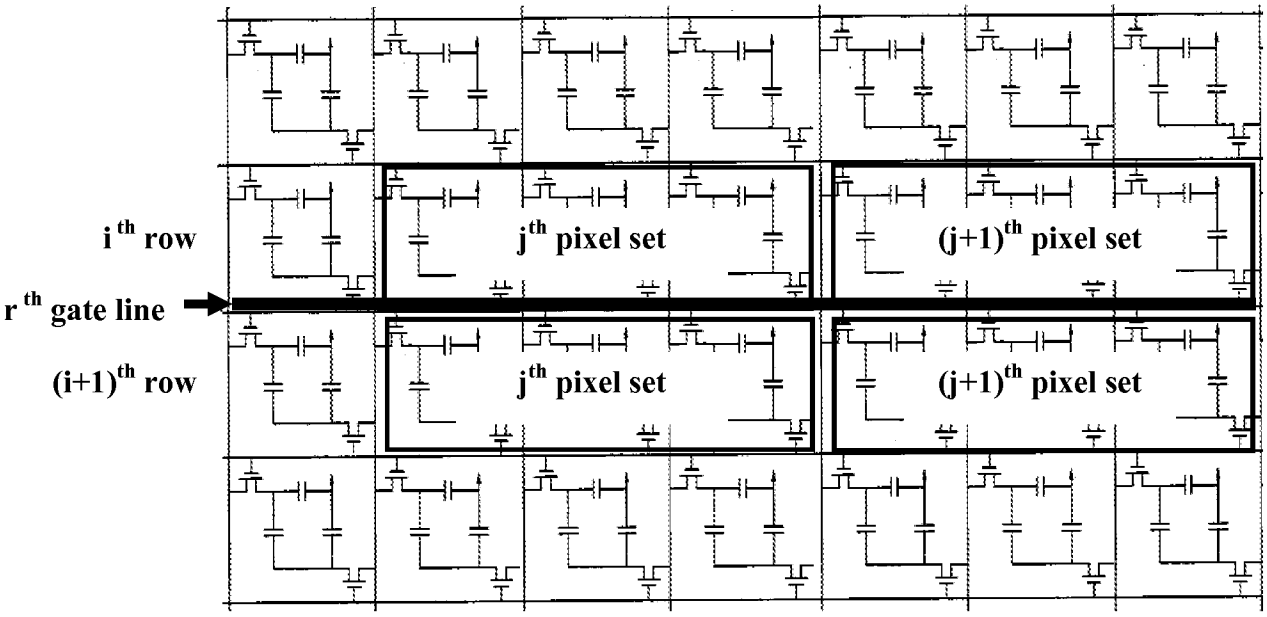
the $j^{th}$ and the $(j+1)^{th}$ pixel sets of the $(i+1)^{th}$ row of the pixels have driving polarity;

the $j^{th}$ pixel set of the $i^{th}$ row of the pixels and the $j^{th}$ pixel set of the $(i+1)^{th}$ row of the pixels have driving polarity; and

the $(j+1)^{th}$ pixel set of the $i^{th}$ row of the pixels and the $(j+1)^{th}$ pixel set of the $(i+1)^{th}$ row of the pixels have driving polarity;

a plurality of data lines for respectively providing a corresponding pixel voltage,

a plurality of gate lines, wherein the $r^{th}$ gate line is used for turning all odd pixels in the $j^{th}$ and the $(j+1)^{th}$ pixel sets of the $i^{th}$ row of the pixels and all even pixels in the $j^{th}$ and the $(j+1)^{th}$ pixel sets of the $(i+1)^{th}$ row of the pixels, where r is a positive integer (note that as shown on drawing 1 provided below, all of the pixels sets of $i^{th}$ row and $(i+1)^{th}$ row are connected to the $r^{th}$ gate line. Accordingly, all pixels in the $j^{th}$ and $(j+1)^{th}$ pixel sets of the $i^{th}$ row of the pixels and all pixels in the $j^{th}$ and the $(j+1)^{th}$ pixel sets of the $(i+1)^{th}$ row of the pixels are turned on by the scanning signal traveled through the $r^{th}$ gate line).




Drawing 1

Lee does not expressly teach anything regarding the relationship between the driving polarities applied to the pixels sets of the rows of the pixels. In other words, Lee does not expressly teach what type of a polarity driving scheme is used to drive the pixels of the pixel array.

However, Examiner takes Official Notice that it is well known in the art to use a dot inversion as a polarity driving scheme for a pixel array of a display.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the driving method of the pixel array of Lee to use a dot inversion as the polarity driving scheme of the driving method, in order to prevent flickers generated on the display and thus to prevent image degradation of the display.

Lee as modified above [drawing 2 provided below, which is equivalent to the pixel array of Lee to which a dot inversion is applied] teaches that,

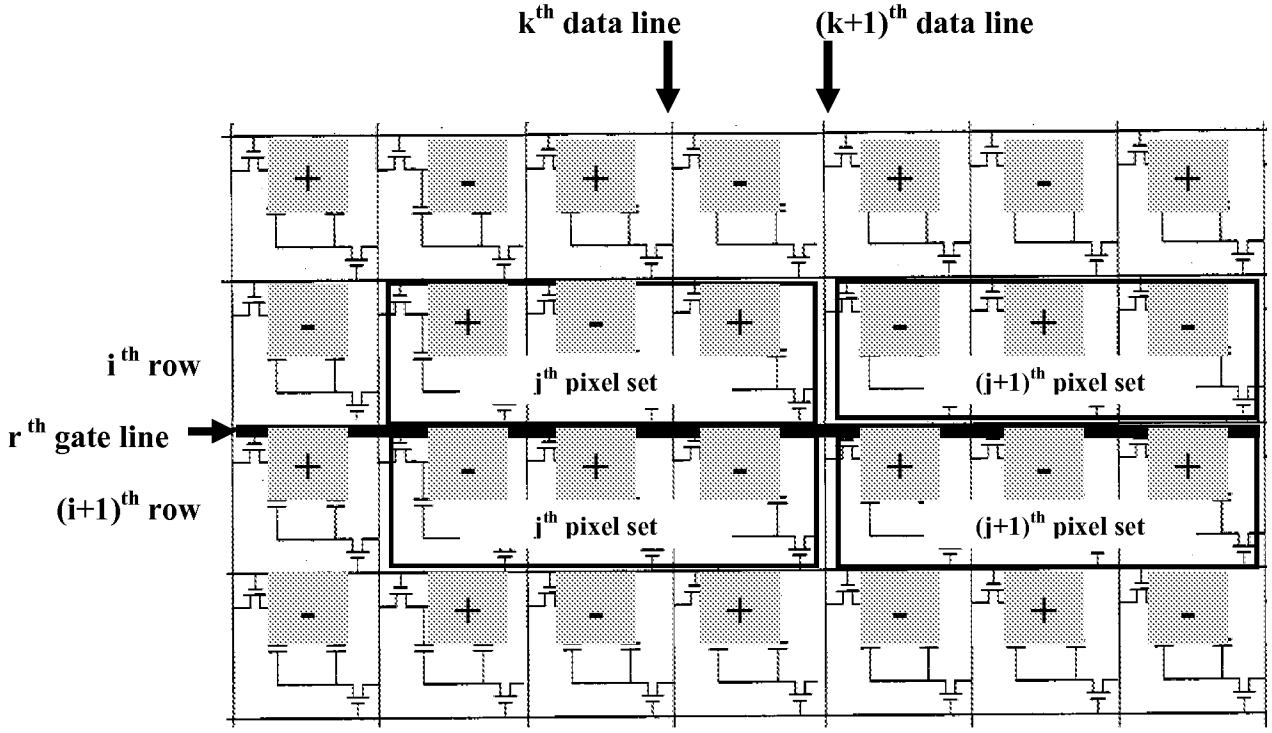
the $j^{th}$ and the $(j+1)^{th}$ pixel sets of the $i^{th}$ row of the pixels substantially have different driving polarity;

the $j^{th}$ and the $(j+1)^{th}$ pixel sets of the $(i+1)^{th}$ row of the pixels substantially have different driving polarity;

the $j^{th}$ pixel set of the $i^{th}$ row of the pixels and the $j^{th}$ pixel set of the $(i+1)^{th}$ row of the pixels substantially have different driving polarity;

the $(j+1)^{th}$ pixel set of the $i^{th}$ row of the pixels and the $(j+1)^{th}$ pixel set of the $(i+1)^{th}$ row of the pixels substantially have different driving polarity; and

the polarity of the pixel voltage provided by the $k^{th}$ data line is opposite to the polarity of the pixel voltage provided by the $(k+1)^{th}$ data line, where k is a positive integer.




Drawing 2

As to **claim 9**, Lee [drawings 1 and 2, provided above] teaches each pixel set comprising 3 pixels or a multiple of 3 pixels.

As to **claim 10**, Lee [drawing 3 provided below, which is equivalent to Lee's figure 3] teaches a pixel array, comprising:

M*N pixels, each row of the pixels having a plurality of pixel sets, wherein

all of the pixel sets in the $i^{th}$ row of the pixels have driving polarity (note that any of the pixel sets included in the display inherently has one of positive or negative driving polarity), wherein i is a positive integer;

all of the pixel sets in the $(i+1)^{th}$ row of the pixels have driving polarity; and

all of the pixel sets in the $i^{th}$ row of the pixels and all of the pixel sets in the $(i+1)^{th}$ row of the pixels have driving polarity;

a plurality of data lines for respectively providing a corresponding pixel voltage,

a plurality of gate lines, wherein the $r^{th}$ gate line is used for turning on all odd pixels in each set of the $i^{th}$ row of the pixels and all even pixels in each pixel set of the $(i+1)^{th}$ row of the pixels, where r is a positive integer (note that as shown on drawing 3 provided below, all of the pixels sets of $i^{th}$ row and $(i+1)^{th}$ row are connected to the $r^{th}$ gate line. Accordingly, all pixels in the $j^{th}$ and $(j+1)^{th}$ pixel sets of the $i^{th}$ row of the pixels and all pixels in the $j^{th}$ and the $(j+1)^{th}$ pixel sets of the $(i+1)^{th}$ row of the pixels are turned on by the scanning signal traveled through the $r^{th}$ gate line).

Lee does not expressly teach anything regarding the relationship between the driving polarities applied to the pixels sets of the rows of the pixels. In other words, Lee does not

expressly teach what type of a polarity driving scheme is used to drive the pixels of the pixel array.

However, Examiner takes Official Notice that it is well known in the art to use a dot inversion as a polarity driving scheme for a pixel array of a display.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the driving method of the pixel array of Lee to use a dot inversion as the polarity driving scheme of the driving method, in order to prevent flickers generated on the display and thus to prevent image degradation of the display.

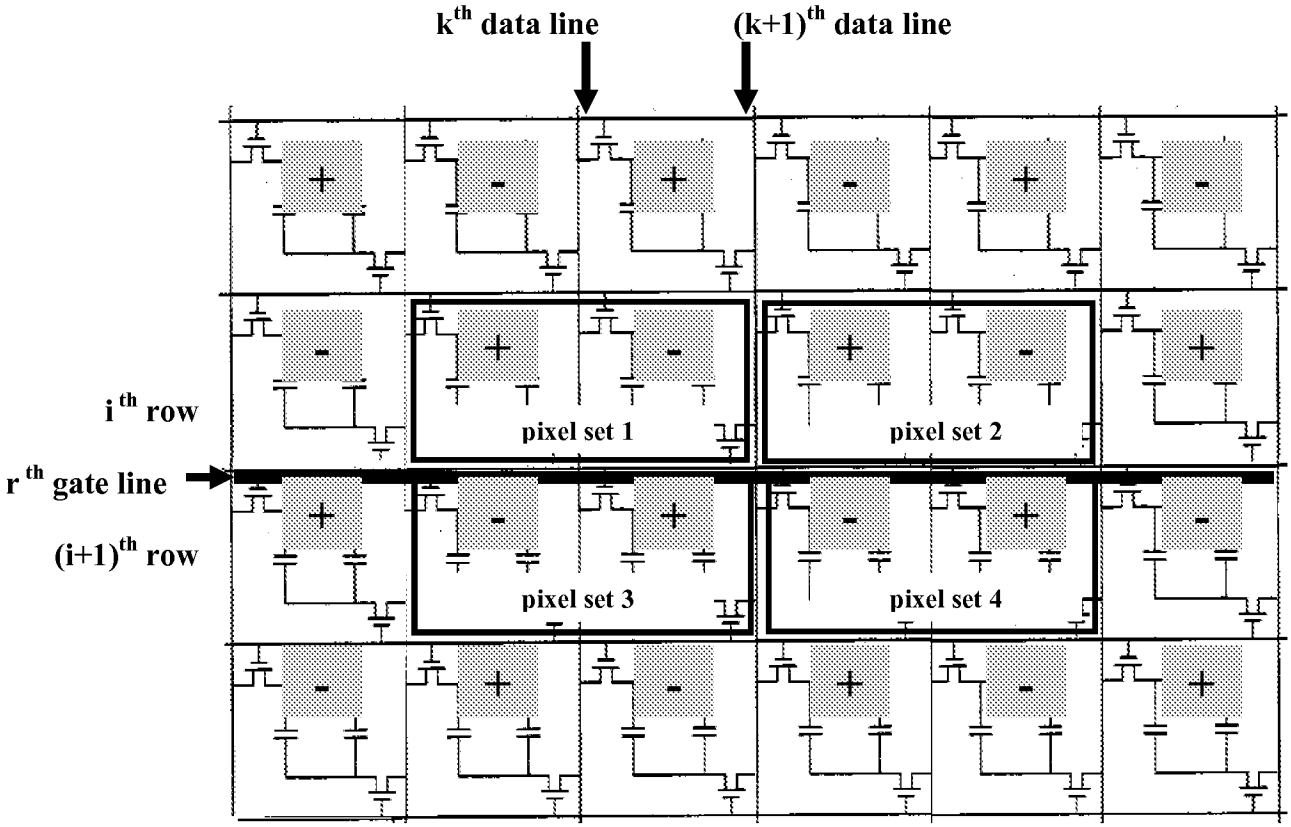
Lee as modified above [drawing 3 provided below, which is equivalent to the pixel array of Lee to which a dot inversion is applied] teaches that,

all of the pixel sets in the $i^{th}$ row of the pixels substantially have same driving polarity;

all of the pixel sets in the $(i+1)^{th}$ row of the pixels substantially have same driving polarity; and

all of the pixel sets in the $i^{th}$ row of the pixels and all of the pixel sets in the $(i+1)^{th}$ row of the pixels substantially have different driving polarity;

the polarity of the pixel voltage provided by the $k^{th}$ data line is opposite to the polarity of the pixel voltage provided by the $(k+1)^{th}$ data line, where k is a positive integer.




Drawing 3

As to **claim 11**, Lee [drawing 3 provided above] teaches each pixel set comprising 2 pixels or a multiple of 2 pixels.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEOKYUN MOON whose telephone number is (571)272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 10, 2008
/S. M./
Examiner, Art Unit 2629

/Sumati Lefkowitz/
Supervisory Patent Examiner, Art Unit 2629